

INCH POUND

MIL-DTL-9395/30E

30 May 2001

SUPERSEDING

MIL-S-9395/30D

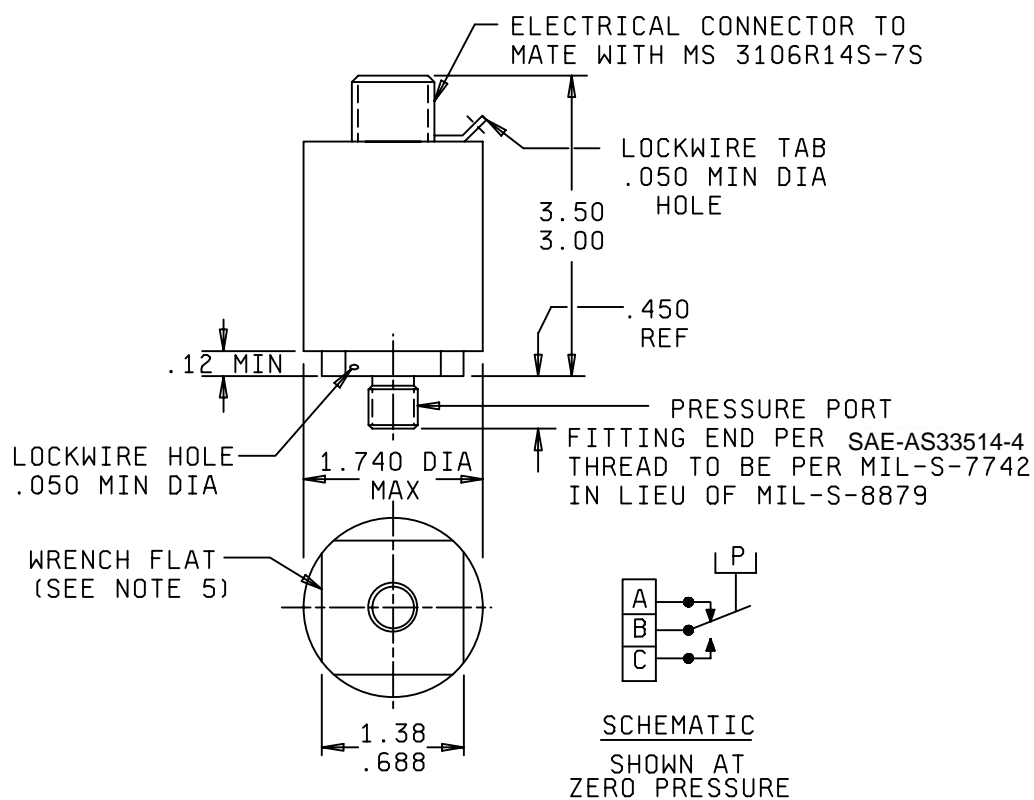
23 July 1980

# DETAIL SPECIFICATION SHEET

## SWITCHES, PRESSURE, (GAGE), TYPE II, 5 AMPERES

This specification is approved for use by all Departments and Agencies of the Department of Defense.

The complete requirements for procuring the pressure switches described herein shall consist of this document and the latest issue of Specification MIL-DTL-9395.

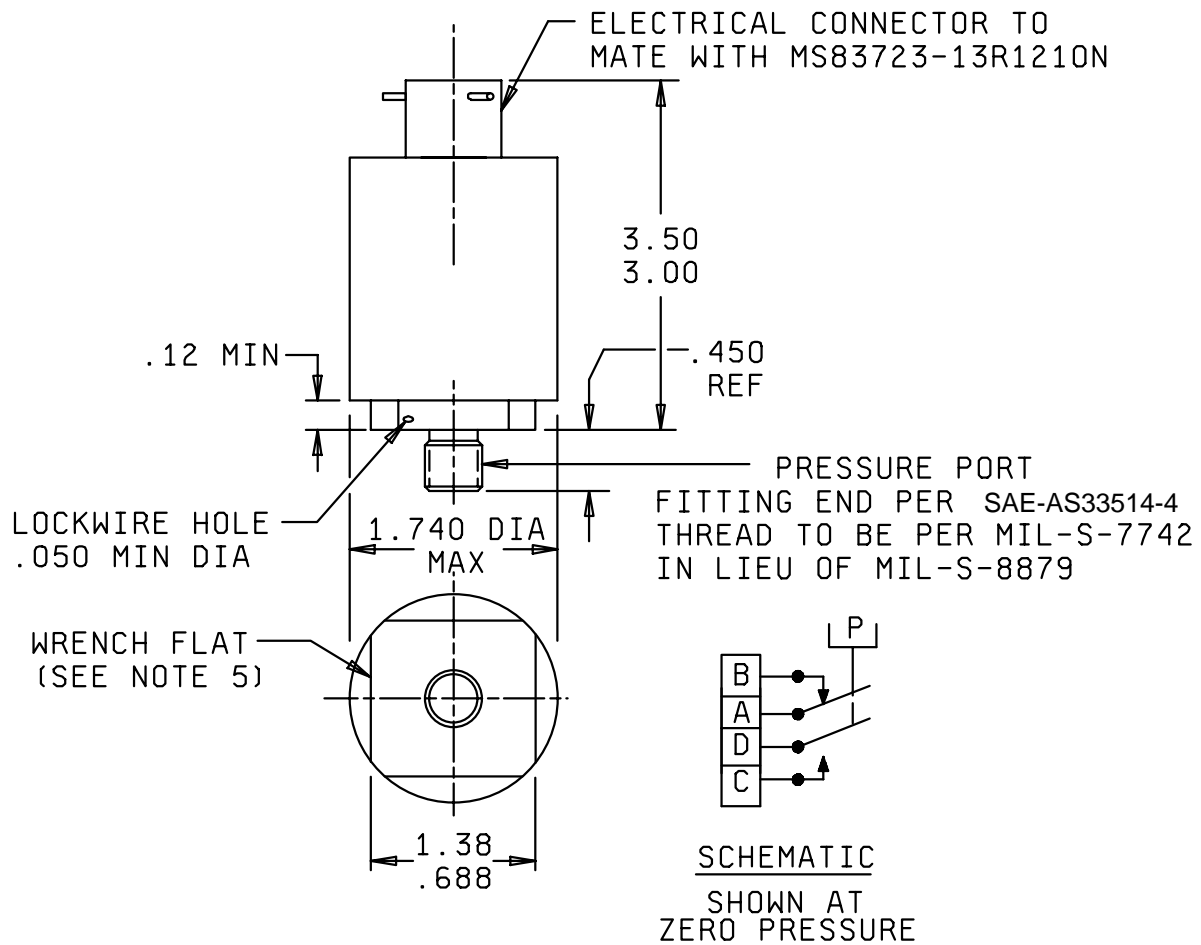


WEIGHT: NOT TO EXCEED .45 LBS.

### Configuration 1

FIGURE 1. Switches.

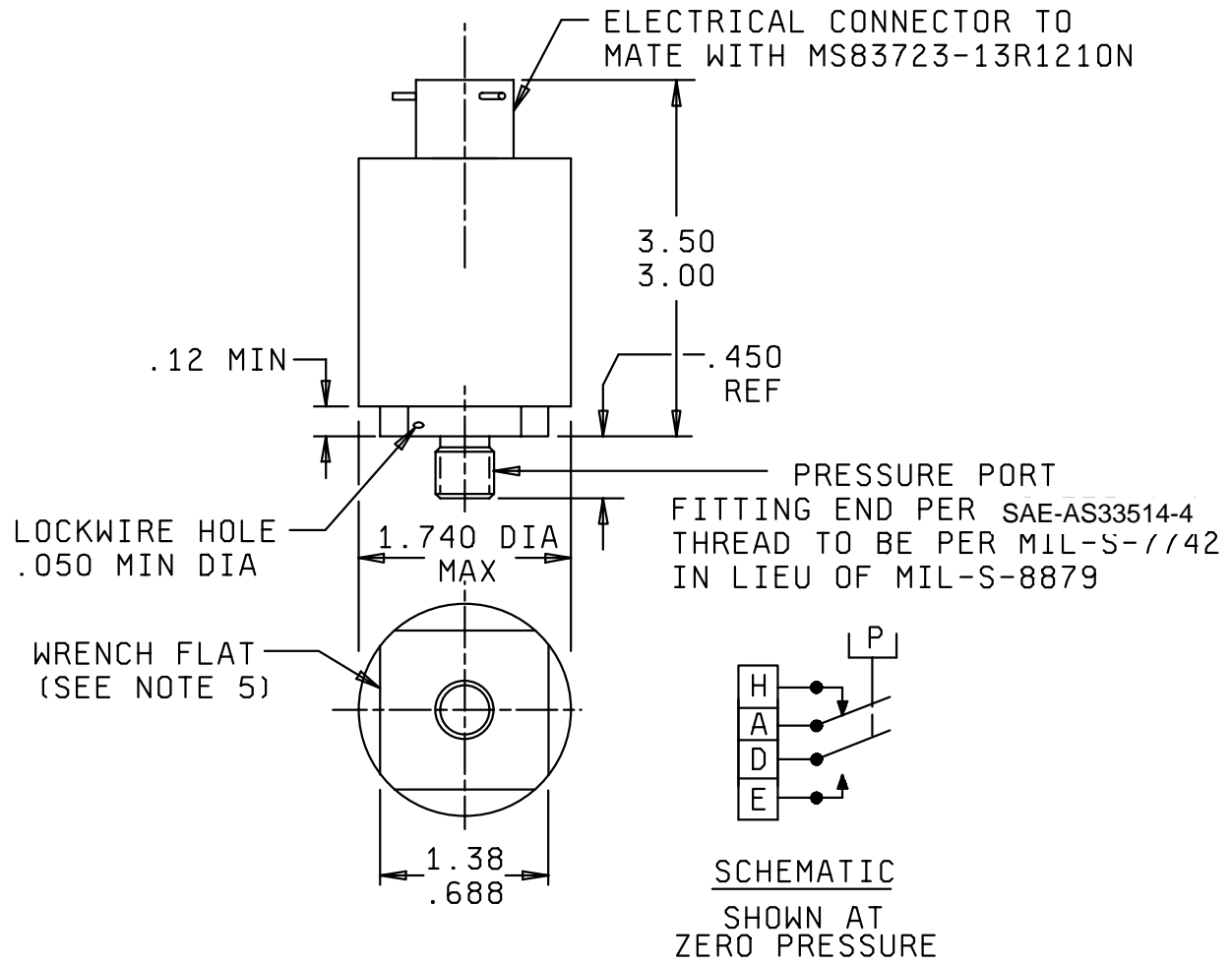
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WEIGHT: NOT TO EXCEED .45 lbs.

Configuration 2

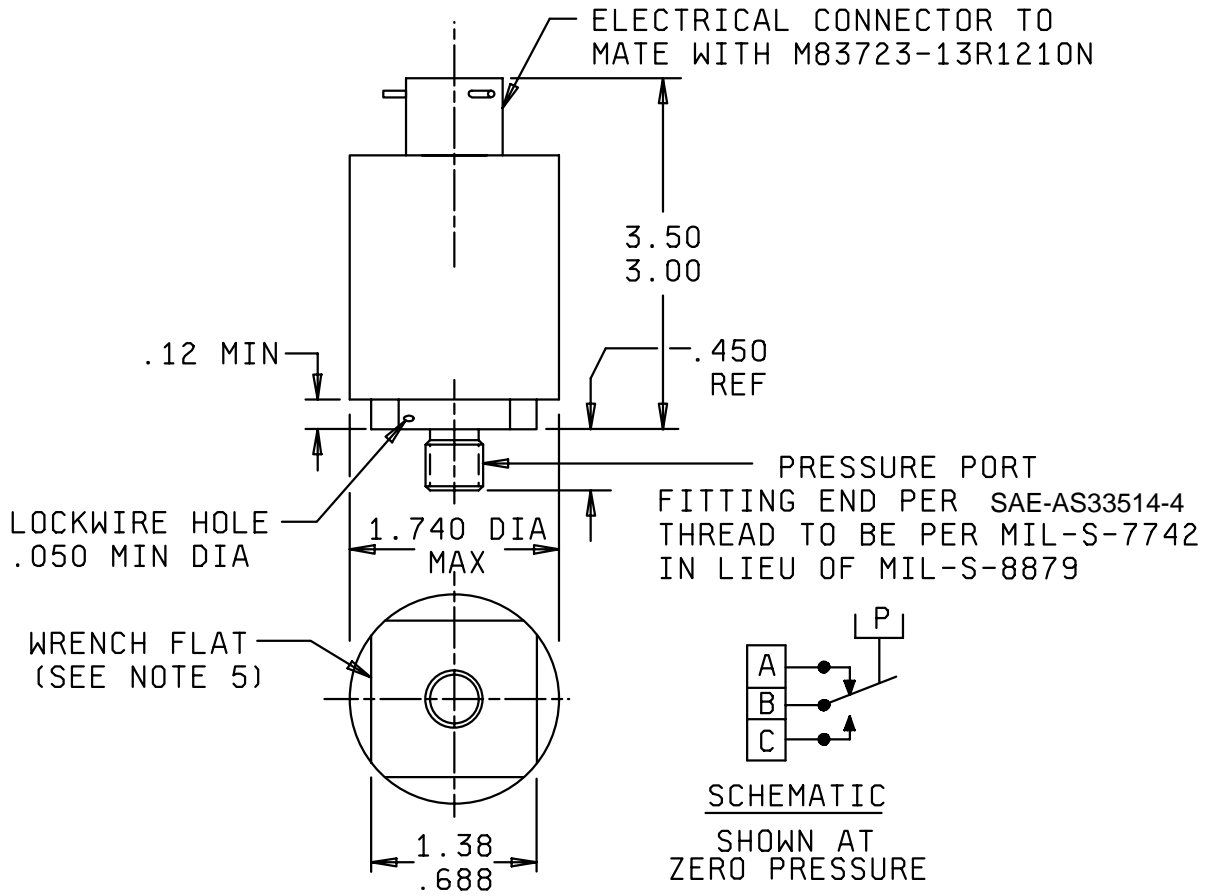
FIGURE 1. Switches - Continued.



WEIGHT: NOT TO EXCEED .45 lbs.

### Configuration 3

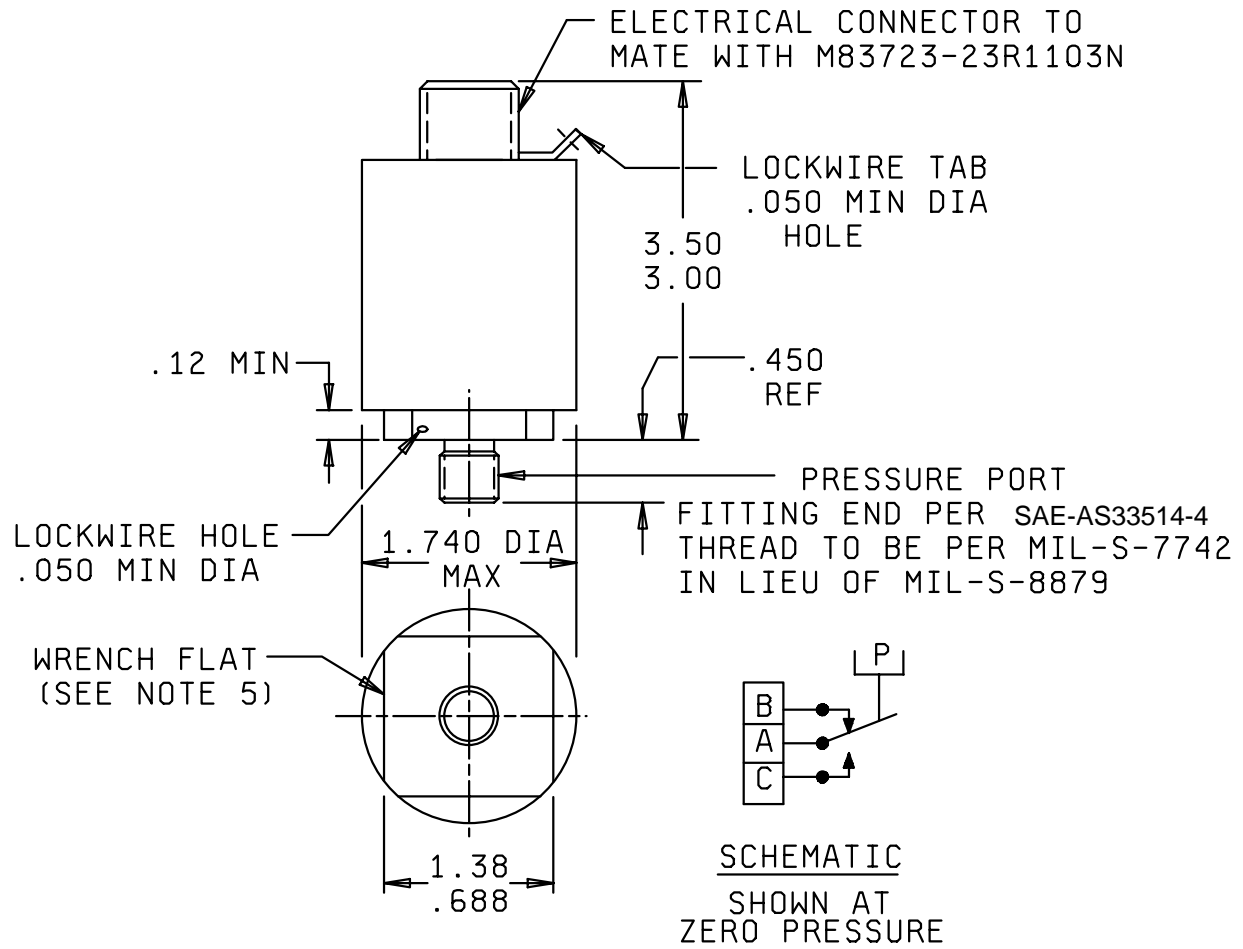
FIGURE 1. Switches - Continued.



WEIGHT: NOT TO EXCEED .45 lbs.

#### Configuration 4

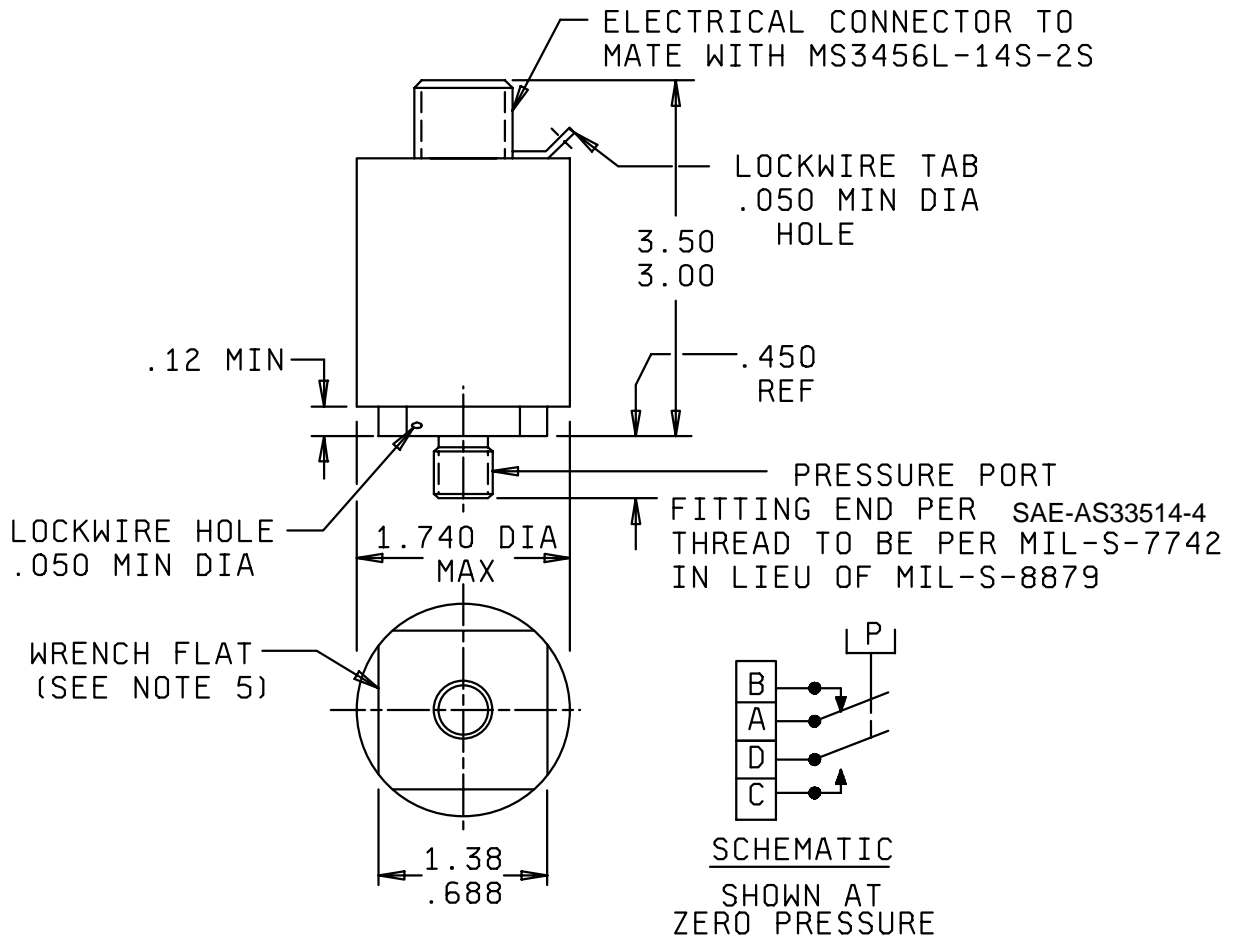
FIGURE 1. Switches - Continued.



WEIGHT: NOT TO EXCEED .45 lbs.

### Configuration 5

FIGURE 1. Switches - Continued.

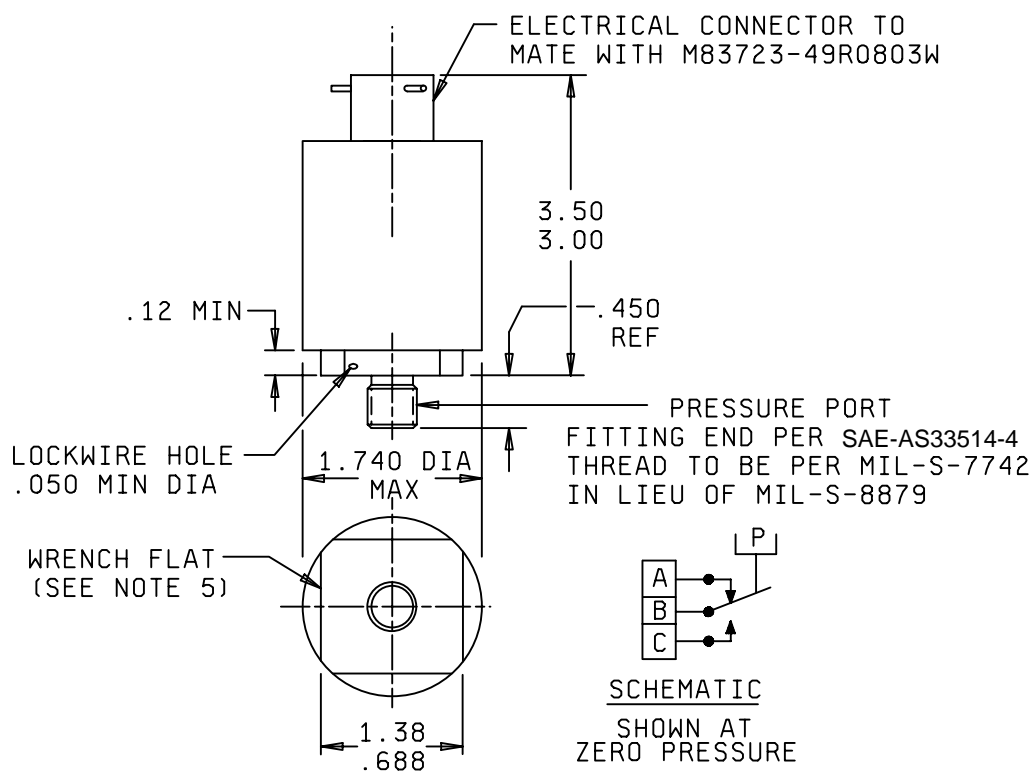


WEIGHT: NOT TO EXCEED .45 lbs.

### Configuration 6

FIGURE 1. Switches - Continued.

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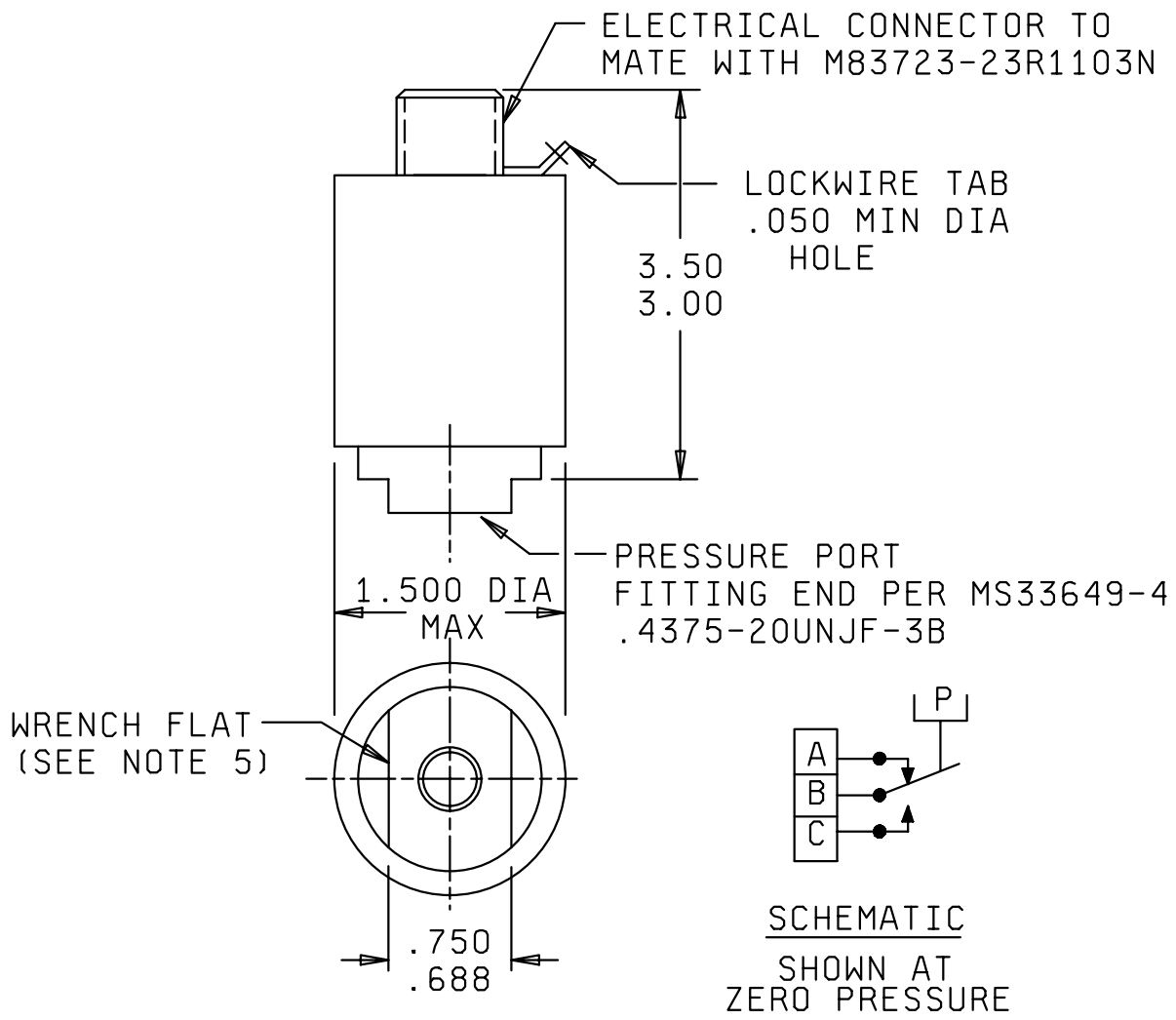


WEIGHT: NOT TO EXCEED .45 lbs.

### Configuration 7

FIGURE 1. Switches - Continued.

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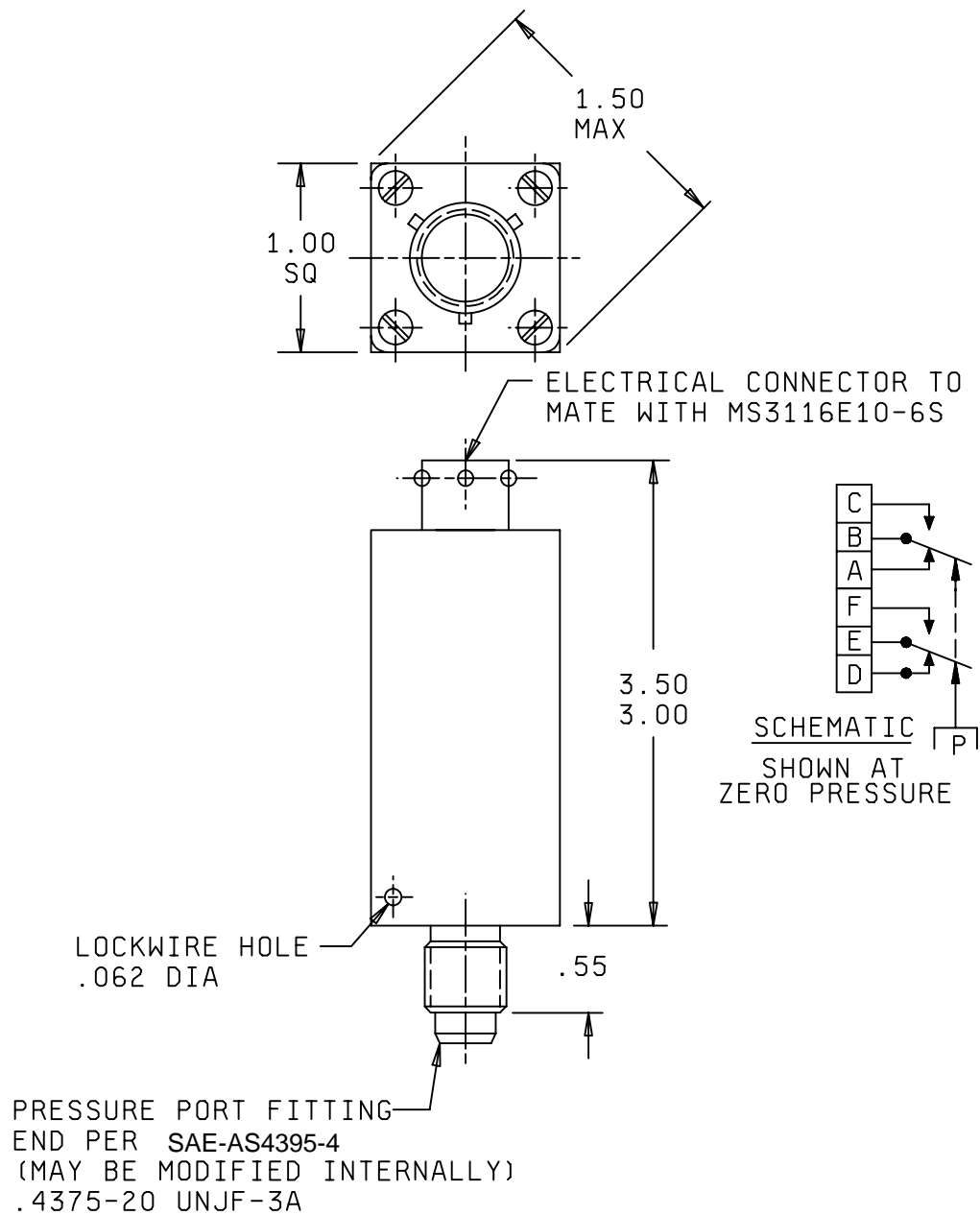
WEIGHT: NOT TO EXCEED .45 lbs.

### Configuration 8

FIGURE 1. Switches - Continued.



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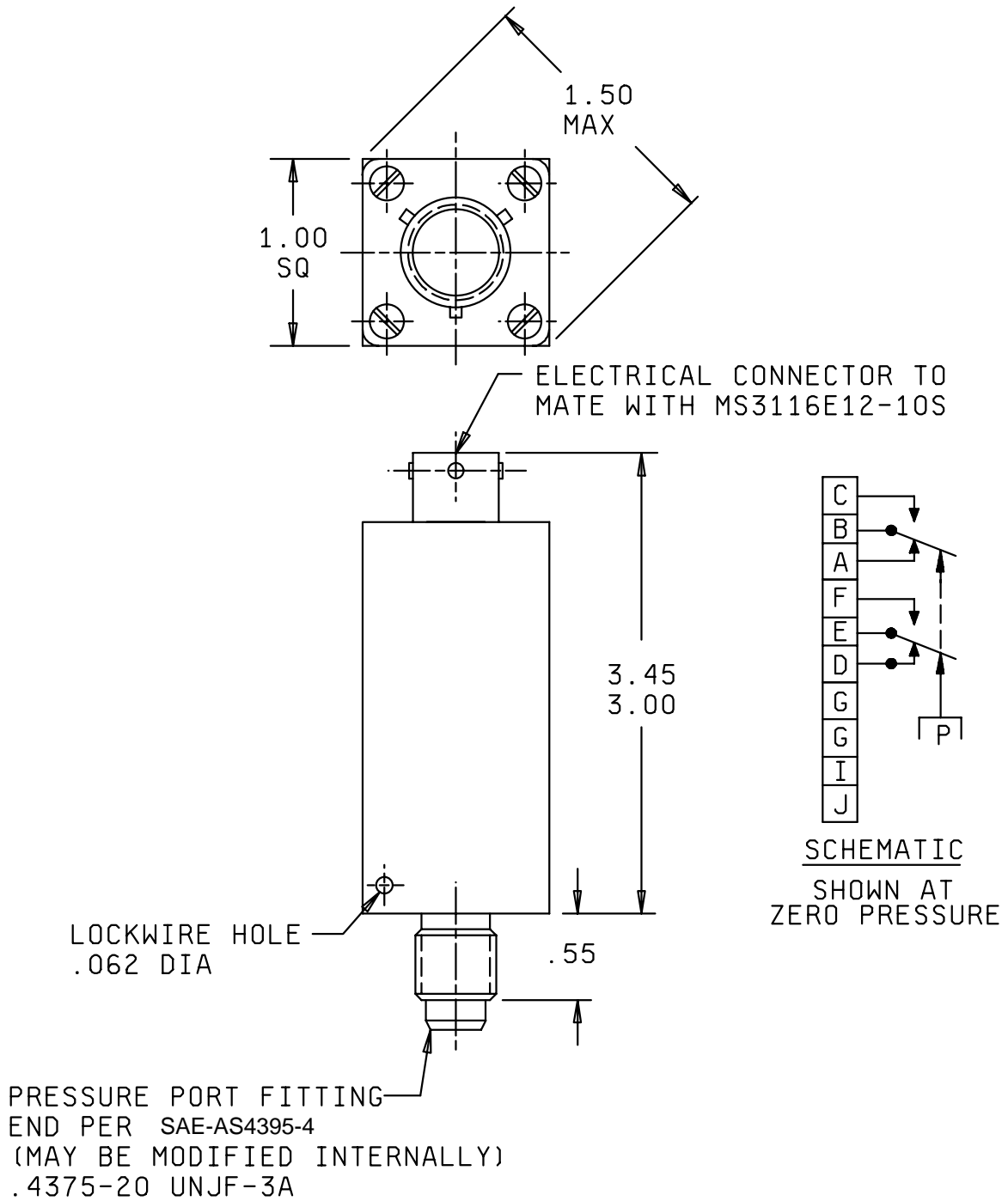


WEIGHT: NOT TO EXCEED .20 lbs.

### Configuration 9

FIGURE 1. Switches - Continued.

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WEIGHT: NOT TO EXCEED .20 lbs.

Configuration 10

FIGURE 1. Switches - Continued.

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INCHES	MM
.005	.13
.050	1.27
.062	1.57
.12	3.0
.450	11.43
.55	14.0
.688	17.48
.750	19.05
1.00	25.4
1.38	35.1
1.50	38.1
1.740	44.20
3.00	76.2
3.45	87.6
3.50	88.9

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only and are based upon 1.00 inch = 25.4 mm.
3. Unless otherwise specified, tolerance is  $\pm .005$  (.13 mm).
4. Exact shape of switch is optional provided outline dimensions specified are not exceeded and mounting holes and connector locations are as specified.
5. A minimum of two wrench flats is needed.

FIGURE 1. Switches - Continued.

REQUIREMENTS:

Dimensions, weight, and electrical schematic: See figure 1.

Calibration: See tables I, II, III, and IV.

Proof pressure: 4500 lb<sub>f</sub>/in<sup>2</sup>.

System pressure: 3000 lb<sub>f</sub>/in<sup>2</sup>.

Burst pressure: 7500 lb<sub>f</sub>/in<sup>2</sup>.

Electrical ratings:

Operating voltage: - 28 Vdc.

Current rating - 5 amperes inductive (L/R = .026)  
2 amperes lamp load.

Seal:

Pressure chamber: Media proof. Subject switches to proof pressure for 2 minutes using hydraulic fluid per MIL-H-5606 with chamber pressure continuously being monitored. Isolate the chamber at proof pressure, with the chamber disconnected from the pressure source. Under that condition, the pressure shall not drop more than 5 lb<sub>f</sub>/in<sup>2</sup> for the first 30 seconds to allow for stabilization of test equipment. No pressure loss is allowed thereafter for the remainder of the 2 minutes.

Electrical chamber: Watertight. In the event of primary seal failure, hydraulic fluid shall not enter the electrical chamber.

Electrical connector: See figure 1.

Pressure port: See figure 1.

Media: Hydraulic fluid per MIL-H-5606.

High temperature (operating and nonoperating): B (+275°F).

Low temperature (operating and nonoperating): D (-65°F).

Altitude: C (except 80,000 feet).

Shock: C (100 G).

Vibration: S (test condition C, method 204 of MIL-STD-202).

Life (mechanical): F (50,000 cycles).

Life (electrical): B (25,000 cycles).

Acceleration: C (8 G).

Pulsation amplitude: E (10 percent).

Pulsation frequency: D (500 ±50 Hz).

Pressure rise: F (500,000 lb<sub>f</sub>/in<sup>2</sup>/sec).

Dielectric withstanding voltage (at reduced barometric pressure): Applicable at 250 Vrms.

Connector torque: Applicable.

QUALIFICATION:

Single submission: Restricted to switch submitted.

Group submission: See table V.

PART NUMBER: Consists of the prefix "M9395/30-" followed by a five-character code. The code identifies the configuration and pressure setting mode (code from table I); high-pressure setting to within 100 lb<sub>f</sub>/in<sup>2</sup> (code from table II) followed by high-pressure setting to within 25 lb<sub>f</sub>/in<sup>2</sup> and applicable tolerance (code from table III). The five-character code used in the following example identifies a switch of configuration 1 which actuates on increasing pressure at 300 ±25 lb<sub>f</sub>/in<sup>2</sup>, and deactuates on decreasing pressure at 150±25 lb<sub>f</sub>/in<sup>2</sup>.

EXAMPLE:

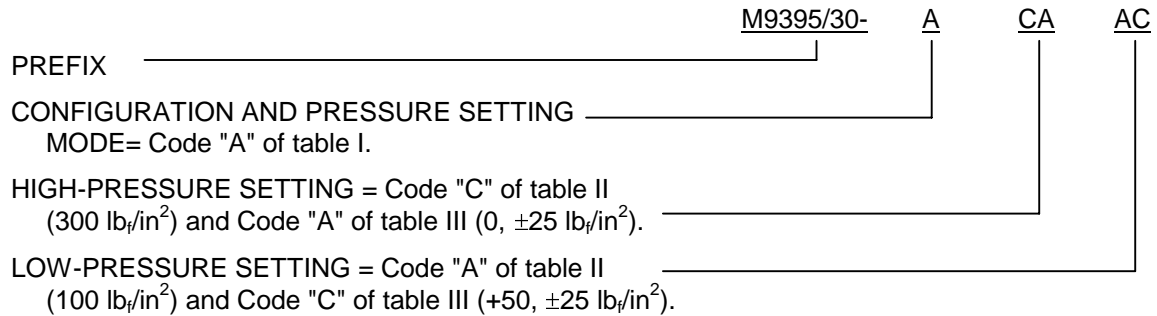


TABLE I. Codes for combinations of configurations and pressure setting modes.

	Configuration										Pressure setting mode	
	1	2	3	4	5	6	7	8	9	10	high setting	Low setting
Code	A	D	G	K	N	R	U	X	1	4	At (or max) <u>1/</u>	At (or min) <u>1/</u>
Code	B	E	H	L	P	S	V	Y	2	5	At (or max) <u>1/</u>	Differential <u>2/</u>
Code	C	F	J	M	Q	T	W	Z	3	5	Differential <u>2/</u>	At (or min) <u>1/</u>

1/ Setting values are designated by codes from tables II and III.

2/ Setting values are designated by codes from table IV.

TABLE I. Codes for combinations of configurations and pressure setting modes.

Code	Pressure (lb <sub>f</sub> /in <sup>2</sup> )	Code	Pressure (lb <sub>f</sub> /in <sup>2</sup> )	Code	Pressure (lb <sub>f</sub> /in <sup>2</sup> )
A	100	L	1100	W	2100
B	200	M	1200	X	2200
C	300	N	1300	Y	2300
D	400	P	1400	Z	2400
E	500	Q	1500	1	2500
F	600	R	1600	2	2600
G	700	S	1700	3	2700
H	800	T	1800	4	2800
J	900	U	1900	5	2900
K	1000	V	2000	6-	3000

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TABLE III. Codes for pressure settings to within 25 lb<sub>f</sub>/in<sup>2</sup> and tolerances.

	Unit				Tolerance (lb <sub>f</sub> /in <sup>2</sup> )
	0	+25	+50	+75	
Code	A	B	C	D	±25
Code	E	F	G	H	±50
Code	J	K	L	M	±75
Code	N	P	Q	R	±100
Code	S	T	U	V	±150
Code	W	X	Y	Z	±200
Code	1	2	3	4	±300
Code	5	6	7	8	±400
Code	9	0	I	-	Min or Max

TABLE IV. Codes for differential pressure settings.

Code	Differential value (lb <sub>f</sub> /in <sup>2</sup> )	Code	Differential value (lb <sub>f</sub> /in <sup>2</sup> )
A	0	M	275
B	25	N	300
C	50	P	325
D	75	Q	350
E	100	R	375
F	125	S	400
G	150	T	425
H	175	U	450
J	200	V	475
K	225	W	500
L	250		

TABLE V. Extent of qualification .

Part number	Number of samples required	Tests	Qualifies
M9395/30-AADAA ↓ -KADAA -14ZXV -44ZXV	1 each inductive 1 each lamp 1 each inductive 1 each lamp	Complete per qualification inspection of MIL-DTL-9395	ALL configurations

NOTES:

1. Pressure switches supplied to this specification sheet shall be designed to operate normally with the system pump ripple at 3000 lb<sub>f</sub>/in<sup>2</sup> at 0 to 700 Hz and average transient of 3000 ±500 lb<sub>f</sub>/in<sup>2</sup> at 10 Hz peaking to 4050 lb<sub>f</sub>/in<sup>2</sup>.
2. Design limitations (actuation values and tolerances, deadband and deactuation values and tolerances) should be coordinated with manufacturer(s) listed on the QPL for this spec sheet before specifying a particular "M" number. The fact that operating characteristics can be coded does not necessarily mean that it can be manufactured or procured.

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Custodians:

Army - CR  
Navy - EC  
Air Force - 11  
DLA - CC

Preparing activity:

DLA - CC

(Project 5930-1730-10

Review activities:

Army - AV  
Navy - MC, SH  
Air Force - 99